Solid Waste Management Technical Working Group
Meeting Notes
January 9 and 10, 2006

Present: Pat Canzano, Toby Clark, Andrew Goudy, Gary Hater, Lanny Hickman, Michael Keefe, Wally Kremer, Matt Lintner, Bill Montgomery, Paul Sample, Jim Werner, Paul Wilkinson, Tad Yancheski and Marian Young

Project leader, Toby Clark called the meeting to order at 1:00 p.m.

Update – Work Group Plans

Dr. Clark reminded the group that the process of reviewing vendors is ongoing. There is a concerted effort to get one vendor representing each technological process to make a presentation to the working group. If there are multiple vendors, the vendors who have not presented their technology in Delaware were given the first invitations to present. No vendors have been invited for out-of-vessel composting (because it appears not to be feasible to locate such a facility in Northern Delaware), pyrolysis (although there is one unit which has at least tested MSW as a feedstock apparently in operation in the US, Mr. Clark was unable to contact them), and acid hydrolysis (there being no vendors with operating units in the United States). Both composting system vendors invited to make presentations utilize an in-vessel method. Dr. Clark asked the group to completed evaluations on the technology presented by each vendor and send them to him as soon as possible. Many of the presentations and handouts from the meeting are on the website http://www.dnrec.delaware.gov/SWMTWG/

Update – Cherry Island Landfill

Jim Werner gave an update on the Cherry Island Landfill. Mr. Werner explained that the Cherry Island Landfill is an active landfill in New Castle County. DNREC has issued the last expansion permit for that site which allows the landfill to expand to 195 feet in height. At the current rate of disposal, the additional height should increase the life of the landfill by twenty years. When the site reaches the permitted height, a closure permit will be initiated. The permit includes a stipulation that DSWA implement a program to increase recycling with a goal of 40% municipal solid waste. If recycling is effectively implemented, and yard waste is no longer accepted, the operational life of the landfill will be extended because the terminal element is the height, not the length of time. The permit issued for the Cherry Island Landfill can be found at this website location http://www.dnrec.delaware.gov/Info/SecOrders.htm

Stearns & Wheler, LLC

Jeffrey Heath from Stearns & Wheler explained the features of the Conporec Composting process and the Siemens/US Filter – IPS process. Information on the process can be found at the company's website www.sternswheler.com and in other documents listed on the SWMTWG web site under background documents.

Waste Management

Roger Green from Waste Management provided information about bioreactor landfills, which are landfills operated so as to accelerate the decomposition of the organic materials disposed of in the landfill, increase the rate at which methane gas is produced and collected, and reduce post-closure care requirements. Information on the process can be found at company's website http://www.wm.com/ and in other documents listed on the SWMTWG web site under background documents.

Del-EASI Assessment of Alternative MSW Process Technologies Report

Dr. Paul Sample discussed the recently released report produced by the Technical Advisory Office of the State of Delaware, Legislative Council, Division of Research in cooperation with Delaware Environmental Alliance for Senior Involvement (Del-EASI). This report documents the present understanding of technical processes in use or being considered for municipal solid waste disposal and provides an assessment of the merits for each. The report states that the most promising scheme appears to be a combination of the "WastAway" technology, and a commercial composting process that will accommodate all yard waste as a separate waste stream. The recommendation for the near term for both functional and economic merits was using a dual system of WastAway technology and composting. This combination provides the least disruption of residential waste disposal habits while producing locally used products. The longer range recommendation is to pursue a comprehensive cost analysis on capital and operating costs along with energy and material balances to combine WastAway technology, commercial composting and waste-to-energy to facilitate proposals for waste management change and/or new business development. A full copy of this report is available at http://www.dnrec.delaware.gov/SWMTWG/

January 10th

Wright Environmental Management, Inc.

Russ Blades from Wright Tech Systems gave an overview of Wrights' in-vessel process for composting posting and reducing the moisture content of MSW in order to prepare RDF with a higher net energy content. A copy of the presentation is available at http://www.dnrec.delaware.gov/SWMTWG/. For additional information see the company website. www.wrighttech.ca and other documents listed on the SWMTWG web site under background documents.

Discussion/Public Comments/Open Forum

Dr. Paul Wilkinson gave a brief presentation from the Municipal Solid Waste Grouping for Recycling Consideration. The data was based on FA 2000 analysis and DSM yard waste study. Base on one million tons of Municipal Solid Waste being generated, he estimates that a full recycling program would reduce the amount of materials placed in landfills by a minimum of 520,000 tons.

Group (Residential, Comm., Both)	% of msw	Potential Recycling	Recycling % msw
Yard Waste (90% res./10% comm..)	19%	78%	15% 12% composted 3% source reduced
Commercial/institutional msw (excludes yard and food waste)	34%	50%	17%
Curbside Recycling (residential) (Containers, packaging, non-durables, excluding yard and food waste)	25%	50%	13%
Durable Goods (residential) (refrig., tires, batteries, electronics)	10%	30%	3%
Food waste, other 60% residential/40% commercial	12%	33%	4%
TOTAL	100%		52%

Recycling efforts in Delaware City have reduced the MSW from two tons per week to one. Delaware City has a once a week pick up for recyclables. DSWA recycles 2,500 tons of tires each year; the tires are transported to Lawton, Virginia for recycling. DSWA also recycles two million pounds of electronics each year.

Dr. Clark asked if the group wanted to hear presentations from additional vendors. The consensus was to continue hearing vendor presentations. There is no U.S. vendor for the anaerobic fermentation process. It was decided that the following vendors be contacted to present at the February 6 meeting:

- Volagra or ArrowBio to make a presentation on anaerobic fermentation processes
- Craig Olsen, of Brightfields, Inc, would make a presentation on waste reduction (rescheduled from January)
- Richard Keller of the Maryland Environmental Services Recycling Program to present the Maryland program.

It was agreed that each pair of working group members focused on one of the seven evaluation criteria would prepare a one page evaluation of each technological process according to the criterion the pair is focusing on, and would provide these to Dr. Clark. He will prepare a chapter in the report for each technological process incorporating these evaluations. There will also be a chapter on recycling and waste reduction. Dr. Clark asked that the first cut of the summaries be ready before the February meeting.

Pat Canzano will check on the progress of a report written by Morton Barlaz who is a professor at North Carolina State and has been undertaking a life cycle analysis of recycling for DSWA. His report is scheduled for completion this summer.

Possibilities for future meetings:

- Professor Nicholas Themelis from Columbia University might be invited, perhaps to the April meeting, to present his insights into the advantages and disadvantages of alternative technologies for processing MSW.
- Paul Chrostowski who was a member of the National Academy of Sciences panel assessing the health risks from incinerators might be invited to provide his insights into the health and environmental effects of alternative processing technologies. He has completed health and environmental risk assessment of more then one hundred MSW facilities.
- Paul and Wally will follow-up with Blue Mountain, RecycleBank and WastAway regarding their answers to the Working Groups' list of questions for vendors.
- A Visit to an operating Waste-to-Energy facility – one is located in Lancaster, Pennsylvania. This may be a good opportunity to go onsite and see the entire operation.

Pat Canzano will provide a breakdown of DSWA's budget showing tipping fees and the cost of running a landfill.

Wheelabrator Technologies

Dick Stone and Frank Ferraro made a presentation describing Wheelabrator's Waste-to-Energy technology. Information on the waste-to-energy process is available on the company's website http://www.wheelabratortechnologies.com and in other documents listed on the SWMTWG web site under background documents.

Interstate Waste Technologies

Frank Campbell gave a presentation on the Thermoselect Technology gasification process. Information on this process is available at the company's website. http://www.interstatewastetechnologies.com/ , in other documents listed on the SWMTWG web site under background documents, and in the presentation document he provided to the working group, a copy of which is available in the SWMTWG collection of public documents.

StarTech Environmental Corp.

Stephen Landa, with assistance from his colleague Bob Gakos, gave a presentation on the StarTech gas plasma conversion process. Information on this process is available at the company's website www.startech.net and in other documents listed on the SWMTWG web site under background documents.

Open Forum - Public Comments

There were no public comments.

Meeting dates for the Solid Waste Management Technical Working Group:

Monday, February 6, 1:00 - 4:00 p.m.

Monday, March 6, 1:00 - 4:00 p.m.

Monday, April 3, 1:00 - 4:00 p.m.

Monday, May 1, 1:00 - 4:00 p.m.

All meetings will be held in the Buck Library at Buena Vista, 601 S. DuPont Ave., New Castle.

There being no further business, the meeting adjourned at 4:00 p.m.

Respectfully submitted,
Karen A. Garrison CAP
Administrative Specialist III, DNREC

The notes of this meeting are not intended to be a verbatim record of the topics that were presented or discussed. They are for the use of the Solid Waste Management Technical Working Group members and the public in supplementing their personal notes and recall for presentations.